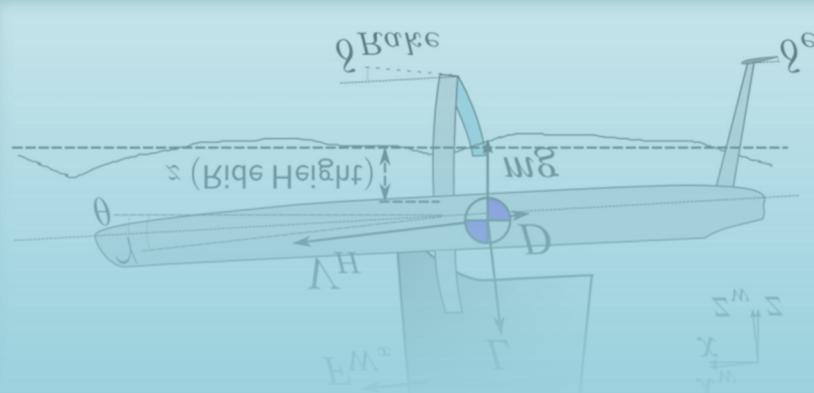
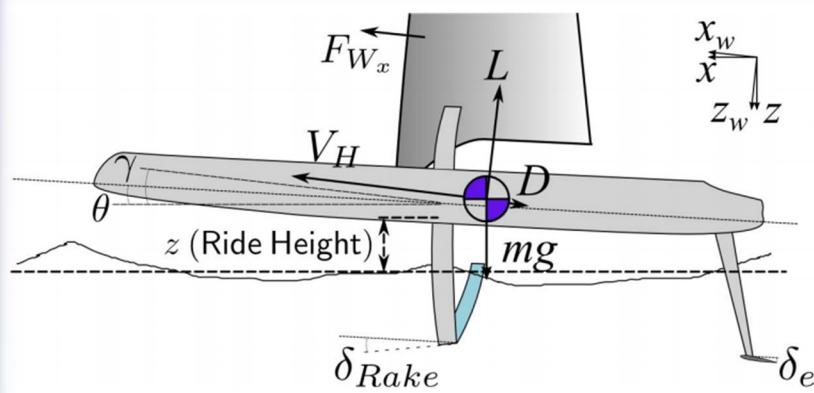


January 2021

# PUBLICATIONS CONTENT DIGEST



## CSS Publications Activities

### Vice-President

**ANDREW ALLEYNE** *University of Illinois at Urbana-Champaign*

<http://ieeecs.org/publications>

### Journal Editors

**IEEE Transactions on Automatic Control**

**ALESSANDRO ASTOLFI** *Imperial College London and University of Rome “Tor Vergata”*

<http://ieeecs.org/publication/transactions-automatic-control>

**IEEE Transactions on Control Systems Technology**

**ANDREA SERRANI** *Ohio State University*

<http://ieeecs.org/publication/transactions-control-systems-technology>

**IEEE Transactions on Control of Network Systems**

**JEFF SHAMMA** *King Abdullah University of Science and Technology*

**ANNA SCAGLIONE** Deputy Editor-in-Chief *Arizona State University*

<http://ieeecs.org/publication/transactions-control-network-systems>

**IEEE Control Systems Letters**

**MARIA ELENA VALCHER** *University of Padua*

<http://ieeecs.org/publication/control-systems-letters>

**IEEE Control Systems Magazine**

**RODOLPHE SEPULCHRE** *University of Cambridge*

<http://ieeecs.org/publication/ieee-control-systems-magazine>

### Electronics Editor

E-letter on Systems, Control and Signal Processing

**AHMAD TAHA** *University of Texas at San Antonio*

<http://ieeecs.org/publication/e-letter>

**\*Submission and editorial instructions can be found on each publication's homepage**

For subscription to the monthly E-Letter, please send an empty email to

[eletter-css-join@lists.it.utsa.edu](mailto:eletter-css-join@lists.it.utsa.edu)

# IEEE TRANSACTIONS ON AUTOMATIC CONTROL

A PUBLICATION OF THE IEEE CONTROL SYSTEMS SOCIETY



JANUARY 2021

VOLUME 66

NUMBER 1

IETAA9

(ISSN 0018-9286)

---

PAPERS

Push-Pull Gradient Methods for Distributed Optimization in Networks .....	<i>S. Pu, W. Shi, J. Xu, and A. Nedić</i>	1
Formal and Efficient Synthesis for Continuous-Time Linear Stochastic Hybrid Processes .....	<i>L. Laurenti, M. Lahijanian, A. Abate, L. Cardelli, and M. Kwiatkowska</i>	17
Modeling Collective Behaviors: A Moment-Based Approach .....	<i>S. Zhang, A. Ringh, X. Hu, and J. Karlsson</i>	33
Approximate Supermodularity of Kalman Filter Sensor Selection .....	<i>L. F. O. Chamon, G. J. Pappas, and A. Ribeiro</i>	49
Homothetic Tube-Based Robust Economic MPC With Integrated Moving Horizon Estimation .....	<i>Z. Dong and D. Angeli</i>	64
Parsimonious Bayesian Filtering in Markov Jump Systems With Applications to Networked Control .....	<i>A. Rodrigues Mesquita</i>	76
Forward Invariance of Sets for Hybrid Dynamical Systems (Part II) .....	<i>J. Chai and R. G. Sanfelice</i>	89
Feedback Stabilization of a Class of Diagonal Infinite-Dimensional Systems With Delay Boundary Control .....	<i>H. Lhachemi and C. Prieur</i>	105
On Passivity, Reinforcement Learning, and Higher Order Learning in Multiagent Finite Games .....	<i>B. Gao and L. Pavel</i>	121
Distributed Economic Dispatch for Energy Internet Based on Multiagent Consensus Control .....	<i>W. Chen and T. Li</i>	137
Finite Blocklength Entropy-Achieving Coding for Linear System Stabilization .....	<i>Y. Cong, X. Zhou, and R. A. Kennedy</i>	153
Asynchronous Gradient Push .....	<i>M. S. Assran and M. G. Rabbat</i>	168
Practical Synchronization in Networks of Nonlinear Heterogeneous Agents With Application to Power Systems .....	<i>D. Chowdhury and H. K. Khalil</i>	184
Randomized Greedy Sensor Selection: Leveraging Weak Submodularity .....	<i>A. Hashemi, M. Ghasemi, H. Vikalo, and U. Topcu</i>	199
Systematic Design of Robust Event-Triggered State and Output Feedback Controllers for Uncertain Nonholonomic Systems .....	<i>P. Zhang, T. Liu, and Z.-P. Jiang</i>	213
Remote State Estimation in the Presence of an Active Eavesdropper .....	<i>K. Ding, X. Ren, A. S. Leong, D. E. Quevedo, and L. Shi</i>	229
Optimal Control of Systems Subject to Input-Dependent Hydraulic Delays .....	<i>C.-H. Clerget and N. Petit</i>	245

---

TECHNICAL NOTES

An Augmented Lagrangian for Optimal Control of DAE Systems: Algorithm and Properties .....	<i>M. A. Aguiar, E. Camponogara, and B. Foss</i>	261
--	--	-----

---

(Contents Continued on Back Cover)



---

*(Contents Continued from Front Cover)*

---

Exponential Stabilization of a Star-Shaped Thermoelastic Network System Based on the Extended State Observer With Time-Varying Gains .....	L. Wang, Z. Gao, X. Zhou, and Z. Han	267
Boundary Delayed Observer-Controller Design for Reaction-Diffusion Systems .....	R. Katz, E. Fridman, and A. Selivanov	275
Over- and Underapproximating Reach Sets for Perturbed Delay Differential Equations .....	B. Xue, Q. Wang, S. Feng, and N. Zhan	283
Global Convergence for Replicator Dynamics of Repeated Snowdrift Games .....	P. Ramazi and M. Cao	291
Temporal Parallelization of Bayesian Smoothers .....	S. Särkkä and Á. F. García-Fernández	299
Predictor-Based Output-Feedback Control of Linear Stochastic Systems With Large I/O Delays .....	F. Cacace, A. Germani, C. Manes, and M. Papi	307
On Practical Stability Preservation Under Fast Sampling and Accurate Quantization of Feedbacks for Nonlinear Time-Delay Systems .....	M. Di Ferdinando, P. Pepe, and A. Borri	314
Distributed Optimal Control for Linear Multiagent Systems on General Digraphs .....	Z. Zhang, W. Yan, and H. Li	322
Efficient Implementation of Rate Constraints for Nonlinear Optimal Control .....	Y. Nie and E. C. Kerrigan	329
New Results on the Characterization of Strictly Positive Real Matrix Transfer Functions .....	M. Hakimi-Moghaddam and A. Ferrante	335
On Realizability of Specific Biquadratic Impedances as Three-Reactive Seven-Element Series-Parallel Networks for Inerter-Based Mechanical Control .....	K. Wang and M. Z. Q. Chen	340
State Consensus for Discrete-Time Multiagent Systems Over Time-Varying Graphs .....	J.-L. Zhang, X. Chen, and G. Gu	346
$\mathcal{H}_2$ Performance of Series-Parallel Networks: A Compositional Perspective .....	M. H. de Badyn and M. Mesbahi	354
Input-to-State Stability of Impulsive Delay Systems With Multiple Impulses .....	P. Li, X. Li, and J. Lu	362
A Rendezvous Strategy With $R^2$ Reachability for Kinematic Agents .....	S. De, S. R. Sahoo, and P. Wahi	369
Linear-Quadratic Time-Inconsistent Mean-Field Type Stackelberg Differential Games: Time-Consistent Open-Loop Solutions .....	J. Moon and H. J. Yang	375
Optimizing Prediction Dynamics With Saturated Inputs for Robust Model Predictive Control .....	H.-N. Nguyen	383
A Unifying Framework for Strong Structural Controllability .....	J. Jia, H. J. van Waarde, H. L. Trentelman, and M. K. Camlibel	391
Discrete-Time k-Positive Linear Systems .....	R. Alseidi, M. Margaliot, and J. Garloff	399
New Tests for the Stability of 2-D Roesser Models .....	O. Bachelier, T. Cluzeau, D. Mehdi, and N. Yeganehfar	406
On the Equivalence of Youla, System-Level, and Input-Output Parameterizations .....	Y. Zheng, L. Furieri, A. Papachristodoulou, N. Li, and M. Kamgarpour	413
Event-Triggered Stabilization of a Class of Nonlinear Time-Delay Systems .....	P. Zhang, T. Liu, and Z.-P. Jiang	421
Contraction Analysis of Nonlinear DAE Systems .....	H. D. Nguyen, T. L. Vu, J.-J. Slotine, and K. Turitsyn	429
Lyapunov-Krasovskii Characterizations of Stability Notions for Switching Retarded Systems .....	I. Haidar and P. Pepe	437
Model-Based Dynamic Event-Triggered Control for Systems With Uncertainty: A Hybrid System Approach .....	K.-Z. Liu, A. R. Teel, X.-M. Sun, and X.-F. Wang	444
Event-Based Formation Control for Nonlinear Multiagent Systems Under DoS Attacks .....	Y. Tang, D. Zhang, P. Shi, W. Zhang, and F. Qian	452
Networked Control Under DoS Attacks: Tradeoffs Between Resilience and Data Rate .....	S. Feng, A. Cetinkaya, H. Ishii, P. Tesi, and C. De Persis	460
Interval Estimation for Uncertain Systems via Polynomial Chaos Expansions .....	W. Han, Z. Wang, Y. Shen, and B. Xu	468
<hr/> COMMENTS AND CORRECTIONS		
Corrections to “Satisficing in Multiarmed Bandit Problems” .....	P. Reverdy, V. Srivastava, and N. E. Leonard	476

---

# IEEE TRANSACTIONS ON CONTROL SYSTEMS TECHNOLOGY



A PUBLICATION OF THE IEEE CONTROL SYSTEMS SOCIETY

JANUARY 2021

VOLUME 29

NUMBER 1

IETTE2

(ISSN 1063-6536)

---

## REGULAR PAPERS

Full State Feedback Foiling Control for America's Cup Catamarans .....	R. Bencatel, S. Keerthivarman, I. Kolmanovsky, and A. R. Girard	1
Task Learning, Intent Prediction, and Adaptive Blended Shared Control With Application to Excavators .....	Z. Jin, P. R. Pagilla, H. Maske, and G. Chowdhary	18
Resilient Flight Control: An Architecture for Human Supervision of Automation .....	A. B. Farjadian, B. Thomsen, A. M. Annaswamy, and D. D. Woods	29
Hamiltonian Point of View on Parallel Interconnection of Buck Converters .....	J. Kreiss, J.-F. Trégouët, D. Eberard, R. Delpoux, J.-Y. Gauthier, and X. Lin-Shi	43
A Data-Driven Cyclic-Motion Generation Scheme for Kinematic Control of Redundant Manipulators .....	Z. Xie, L. Jin, X. Luo, S. Li, and X. Xiao	53
Modeling and Control of Tower Cranes With Elastic Structure .....	F. Rauscher and O. Sawodny	64
Delay Compensation-Based Time Synchronization Under Random Delays: Algorithm and Experiment .....	Y.-P. Tian, S. Chun, G. Chen, S. Zong, Y. Huang, and B. Wang	80
Two-Stage Dual Dynamic Programming With Application to Nonlinear Hydro Scheduling .....	B. Flamm, A. Eichler, J. Warrington, and J. Lygeros	96
Underwater Intervention With Remote Supervision via Satellite Communication: Developed Control Architecture and Experimental Results Within the Dexrov Project .....	P. Di Lillo, E. Simetti, F. Wanderlingh, G. Casalino, and G. Antonelli	108
Yaw Rate and Sideslip Angle Control Through Single Input Single Output Direct Yaw Moment Control .....	B. Lenzo, M. Zanchetta, A. Sorniotti, P. Gruber, and W. De Nijs	124
Iterative Learning Control With Time-Delay Compensation: An Application to Twin-Roll Strip Casting .....	F. Browne, B. Rees, G. T.-C. Chiu, and N. Jain	140
Robust Attitude Tracking for Aerobatic Helicopters: A Geometric Approach .....	N. Raj, R. N. Banavar, Abhishek, and M. Kothari	150

---

(Contents Continued on Back Cover)



(Contents Continued from Front Cover)

Model-Free Prescribed Performance Control for Spacecraft Attitude Tracking .....	<i>Y. Hu, Y. Geng, B. Wu, and D. Wang</i>	165
Adaptive Control for Mechanical Ventilation for Improved Pressure Support .....	<i>J. Reinders, B. Hunnekers, F. Heck, T. Oomen, and N. van de Wouw</i>	180
Identifying Position-Dependent Mechanical Systems: A Modal Approach Applied to a Flexible Wafer Stage .....	<i>R. Voorhoeve, R. de Rozario, W. Aangenent, and T. Oomen</i>	194
Stability Guarantees for Translational Thrust-Propelled Vehicles Dynamics Through NMPC Designs .....	<i>N. T. Nguyen, I. Prodan, and L. Lefèvre</i>	207
Robust Active Mirror Control Based on Hybrid Sensing for Spacecraft Line-of-Sight Stabilization .....	<i>F. Sanfedino, V. Preda, V. Pommier-Budinger, D. Alazard, F. Boquet, and S. Bennani</i>	220
Advanced Valves and Pump Coordinated Hydraulic Control Design to Simultaneously Achieve High Accuracy and High Efficiency .....	<i>L. Lyu, Z. Chen, and B. Yao</i>	236
Output Regulation of Linearized Column Froth Flotation Process .....	<i>X. Xu, Y. Tian, Y. Yuan, X. Luan, F. Liu, and S. Dubljevic</i>	249
Model-Predictive Control With Inverse Statics Optimization for Tensegrity Spine Robots .....	<i>A. P. Sabelhaus, H. Zhao, E. L. Zhu, A. K. Agogino, and A. M. Agogino</i>	263
Monitoring of Turnout Ballast Degradation Using Statistical Low-Complexity Behavioral Models .....	<i>P. Barkhordari, R. Galeazzi, and M. Blanke</i>	278
Actively Tuned Noncollocated Vibration Absorption: An Unexplored Venue in Vibration Science and a Benchmark Problem .....	<i>N. Olgac and R. Jenkins</i>	294
Individual Blade Pitch Control of Floating Offshore Wind Turbines for Load Mitigation and Power Regulation .....	<i>S. Sarkar, B. Fitzgerald, and B. Basu</i>	305
Hierarchical MPC for Robust Eco-Cooling of Connected and Automated Vehicles and Its Application to Electric Vehicle Battery Thermal Management .....	<i>M. R. Amini, I. Kolmanovsky, and J. Sun</i>	316
Analysis and Control of Power-Temperature Dynamics in Heterogeneous Multiprocessors .....	<i>G. Bhat, S. Gumussoy, and U. Y. Ogras</i>	329
Predictive Driving in an Unstructured Scenario Using the Bundle Adjustment Algorithm .....	<i>B. Pinkovich, E. Rivlin, and H. Rotstein</i>	342
Tracking Control of an Articulated Intervention Autonomous Underwater Vehicle in 6DOF Using Generalized Super-twisting: Theory and Experiments .....	<i>I.-L. G. Borlaug, K. Y. Pettersen, and J. T. Gravdahl</i>	353
Nonlinear Double-Capacitor Model for Rechargeable Batteries: Modeling, Identification, and Validation .....	<i>N. Tian, H. Fang, J. Chen, and Y. Wang</i>	370
<hr/>		
BRIEF PAPERS		
Current-Limiting Droop Control Design and Stability Analysis for Paralleled Boost Converters in DC Microgrids ...	<i>A.-C. Braitor, G. C. Konstantopoulos, and V. Kadirkamanathan</i>	385
Voltage Regulation in Buck-Boost Converters Feeding an Unknown Constant Power Load: An Adaptive Passivity-Based Control .....	<i>C. A. Soriano-Rangel, W. He, F. Mancilla-David, and R. Ortega</i>	395
Predictive Converter Control: Hidden Convexity and Real-Time Quadratically Constrained Optimization .....	<i>S. Almér, D. Frick, G. Torrisi, and S. Mariéthoz</i>	403
Optimized Impedance Adaptation of Robot Manipulator Interacting With Unknown Environment .....	<i>X. Liu, S. S. Ge, F. Zhao, and X. Mei</i>	411
A New Adaptive-Robust Design for Time Delay Control Under State-Dependent Stability Condition .....	<i>S. Roy, J. Lee, and S. Baldi</i>	420
Fault Modeling, Estimation, and Fault-Tolerant Steering Logic Design for Single-Gimbal Control Moment Gyro .....	<i>Q. Shen, C. Yue, X. Yu, and C. H. Goh</i>	428
Tracking Control of a Flexible String System Based on Iterative Learning Control .....	<i>T. Meng, W. He, and X. He</i>	436
Stationary Subspace Analysis-Based Hierarchical Model for Batch Processes Monitoring .....	<i>W. Yu, C. Zhao, and B. Huang</i>	444
Artificial Pancreas System With Unannounced Meals Based on a Disturbance Observer and Feedforward Compensation .....	<i>R. Sanz, P. García, J.-L. Díez, and J. Bondia</i>	454
PDE-Based Feedback Control of Freeway Traffic Flow via Time-Gap Manipulation of ACC-Equipped Vehicles .....	<i>N. Bekiaris-Liberis and A. I. Delis</i>	461
A Switching Control Perspective on the Offshore Construction Scenario of Heavy-Lift Vessels .....	<i>J. Ye, S. Roy, M. Godjevac, and S. Baldi</i>	470
<hr/>		
LETTERS		
Comments on Control of Wave Energy Converters .....	<i>G. Bacelli and R. G. Coe</i>	478

# IEEE TRANSACTIONS ON CONTROL OF NETWORK SYSTEMS

A PUBLICATION OF THE IEEE CONTROL SYSTEMS SOCIETY



COSPONSORED BY  
IEEE CIRCUITS AND SYSTEMS SOCIETY  
IEEE COMMUNICATIONS SOCIETY  
IEEE COMPUTER SOCIETY  
IEEE ROBOTICS AND AUTOMATION SOCIETY



DECEMBER 2020

VOLUME 7

NUMBER 4

ITCNAY

(ISSN 2325-5870)

---

PAPERS

Behavioral and Game-Theoretic Security Investments in Interdependent Systems Modeled by Attack Graphs .....	<i>M. Abdallah, P. Naghizadeh, A. R. Hota, T. Cason, S. Bagchi, and S. Sundaram</i>	1585
Analysis and Design of First-Order Distributed Optimization Algorithms Over Time-Varying Graphs .....	<i>A. Sundararajan, B. Van Scov, and L. Lessard</i>	1597
From Matrix-Weighted Consensus to Multipartite Average Consensus .....	<i>S.-H. Kwon, Y.-B. Bae, J. Liu, and H.-S. Ahn</i>	1609
Adaptive Secure State Estimation for Cyber-Physical Systems With Low Memory Cost .....	<i>L. An and G.-H. Yang</i>	1621
Globally Stable Delay Alignment for Feedback Control Over Wireless Multipoint Connections .....	<i>T. Wigren, K. Lau, R. A. Delgado, and R. H. Middleton</i>	1633
Can Taxes Improve Congestion on All Networks? .....	<i>P. N. Brown and J. R. Marden</i>	1643
Distributed Formation Control of Mobile Agents via Global Orientation Estimation .....	<i>Q. Van Tran and H.-S. Ahn</i>	1654
Defending Against Stealthy Attacks on Multiple Nodes With Limited Resources: A Game-Theoretic Analysis .....	<i>M. Zhang, Z. Zheng, and N. B. Shroff</i>	1665
Stochastic Pinning Controllability of Noisy Complex Networks .....	<i>F. D. Rossa and P. DeLellis</i>	1678
Explicit Characterization of Performance of a Class of Networked Linear Control Systems .....	<i>H. K. Mousavi and N. Motee</i>	1688
Simultaneous Facility Location and Path Optimization in Static and Dynamic Networks .....	<i>A. Srivastava and S. M. Salapaka</i>	1700
Clique-Based Distributed PI Control for Multiagent Coordination With Heterogeneous, Uncertain, Time-Varying Orientations .....	<i>K. Sakurama</i>	1712
Optimal Scheduling Strategy for Networked Estimation With Energy Harvesting .....	<i>M. M. Vasconcelos, M. Gagrani, A. Nayyar, and U. Mitra</i>	1723

---

(Contents Continued on Page 1584)



(Contents Continued from Front Cover)

---

Average State Estimation in Large-Scale Clustered Network Systems .....	<i>M. U. B. Niazi, C. Canudas-de-Wit, and A. Y. Kibangou</i>	1736
A Linear Active Disturbance Rejection Control Approach to Position Synchronization Control for Networked Interconnected Motion System.....	<i>Y.-W. Wang, W.-A. Zhang, and L. Yu</i>	1746
Cascading Attacks on Wi-Fi Networks: Theory and Experiments .....	<i>L. Xin, D. Starobinski, and G. Noubir</i>	1757
Output Robustness of Probabilistic Boolean Control Networks With Respect to One-Bit Perturbation .....	<i>S. Zhu, J. Lu, T. Huang, and Y. Liu</i>	1769
Model Reduction Based Approximation of the Output Controllability Gramian in Large-Scale Networks .....	<i>G. Casadei, C. Canudas-de-Wit, and S. Zampieri</i>	1778
Hierarchical Design for Position-Based Formation Control of Rotorcraft-Like Aerial Vehicles .....	<i>D. Zhang, Y. Tang, W. Zhang, and X. Wu</i>	1789
Distributed Communication-Aware Motion Planning for Networked Mobile Robots Under Formal Specifications .....	<i>Z. Liu, B. Wu, J. Dai, and H. Lin</i>	1801
Performance and Design of Consensus on Matrix-Weighted and Time-Scaled Graphs .....	<i>D. R. Foight, M. H. de Badyn, and M. Mesbahi</i>	1812
Control of Learning in Anticoordination Network Games .....	<i>C. Eksin and K. Paarporn</i>	1823
Sparsity Invariance for Convex Design of Distributed Controllers .....	<i>L. Furieri, Y. Zheng, A. Papachristodoulou, and M. Kamgarpour</i>	1836
Decomposition of Nonconvex Optimization via Bi-Level Distributed ALADIN .....	<i>A. Engelmann, Y. Jiang, B. Houska, and T. Faulwasser</i>	1848
Sampled-Data Set Stabilization of Impulsive Boolean Networks Based on a Hybrid Index Model .....	<i>L. Lin, J. Cao, S. Zhu, L. Rutkowski, and G. Lu</i>	1859
Resilient Sensor Placement for Kalman Filtering in Networked Systems: Complexity and Algorithms .....	<i>L. Ye, S. Roy, and S. Sundaram</i>	1870
Redefined Reconstructibility and State Estimation for Boolean Networks .....	<i>J. Yang, W. Qian, and Z. Li</i>	1882
Tradeoff Between Controllability and Robustness in Diffusively Coupled Networks .....	<i>W. Abbas, M. Shabbir, A. Y. Yazıcıoğlu, and A. Akber</i>	1891
Joint Cross-Layer Optimization in Real-Time Networked Control Systems .....	<i>M. Klügel, M. Mamduhi, O. Ayan, M. Vilgelm, K. H. Johansson, S. Hirche, and W. Kellerer</i>	1903
Barrier Function Based Collaborative Control of Multiple Robots Under Signal Temporal Logic Tasks .....	<i>L. Lindemann and D. V. Dimarogonas</i>	1916
Data-Driven I/O Structure Learning With Contemporaneous Causality .....	<i>J. A. W. B. Costanzo and O. Yağan</i>	1929
Mixed Autonomy in Ride-Sharing Networks .....	<i>Q. Wei, R. Pedarsani, and S. Coogan</i>	1940
Resilient Containment Control in Adversarial Environment .....	<i>J. Yan and C. Wen</i>	1951
Asynchronous Distributed Power Control of Multimicrogrid Systems .....	<i>Z. Wang, L. Chen, F. Liu, P. Yi, M. Cao, S. Deng, and S. Mei</i>	1960
Distributed Continuous-Time Algorithms for Optimal Resource Allocation With Time-Varying Quadratic Cost Functions .....	<i>B. Wang, S. Sun, and W. Ren</i>	1974

---

# IEEE CONTROL SYSTEMS LETTERS

A PUBLICATION OF THE IEEE CONTROL SYSTEMS SOCIETY



JANUARY 2021

VOLUME 5

NUMBER 1

ICSLBO

(ISSN 2475-1456)

---

## PAPERS

Bearing-Only Formation Tracking Control of Multi-Agent Systems With Local Reference Frames and Constant-Velocity Leaders .....	J. Zhao, X. Yu, X. Li, and H. Wang	1
A Converse Lyapunov–Krasovskii Theorem for the Global Asymptotic Local Exponential Stability of Nonlinear Time–Delay Systems .....	M. Di Ferdinando, P. Pepe, and S. Di Gennaro	7
Interval Estimation for Discrete-Time Switched Linear Systems Based on $L_\infty$ Observer and Ellipsoid Analysis .....	M. Dkhil, T. N. Dinh, Z. Wang, T. Raïssi, and M. Amairi	13
Strategic Bidding in Extended Locational Marginal Price Scheme .....	J. Sun, N. Gu, and C. Wu	19
Towards Traffic Bisimulation of Linear Periodic Event-Triggered Controllers .....	G. de Albuquerque Gleizer and M. Mazo, Jr.	25
Finite-Dimensional Periodic Event-Triggered Control of Nonlinear Time-Delay Systems With an Application to the Artificial Pancreas .....	A. Borri, P. Pepe, I. Di Loreto, and M. Di Ferdinando	31
Robust Continuous Finite-Time Control of a Helicopter in Turbulence .....	O. Halbe and H. Oza	37
An Emerging Dynamics Approach for Synchronization of Linear Heterogeneous Agents Interconnected Over Switching Topologies .....	B. Adhikari, I.-C. Morărescu, and E. Panteley	43
Stability Analysis for Time-Varying Systems With Asynchronous Sampling Using Contractivity Approach .....	F. Mazenc, M. Malisoff, and M. Krstic	49
Solving Elliptic Hamilton-Jacobi-Bellman Equations in a Value Space .....	W. Qiu, Q. Song, and G. Yin	55
Unknown Dynamics Decoupling to Overcome Unmeasurable Premise Variables in Takagi–Sugeno Observer Design .....	H. Arioui and L. Nehaoua	61
A Numerically Stable Dynamic Mode Decomposition Algorithm for Nearly Defective Systems .....	M. Thitsa, M. Clouatre, E. Verriest, S. Coogan, and C. Martin	67
Is My System of ODEs $k$ -Cooperative? .....	E. Weiss and M. Margaliot	73
Avoiding Unmeasured Premise Variables in Designing Unknown Input Observers for Takagi–Sugeno Fuzzy Systems .....	A.-T. Nguyen, J. Pan, T.-M. Guerra, and Z. Wang	79
A Randomized Algorithm for Generalized Accelerated Projection Method .....	T. Qin and S. R. Etesami	85
Guaranteed Performance Nonlinear Observer for Simultaneous Localization and Mapping .....	H. A. Hashim	91

---

(Contents Continued on Page ii)



Distributed Full-Consensus Control of Nonholonomic Vehicles Under Non-Differentiable Measurement Delays .....	<i>M. Maghenem, A. Loria, E. Nuño, and E. Panteley</i>	97
Stabilization of Discrete Port-Hamiltonian Dynamics via Interconnection and Damping Assignment .....	<i>A. Moreschini, M. Mattioni, S. Monaco, and D. Normand-Cyrot</i>	103
Angle-Constrained Formation Control for Circular Mobile Robots .....	<i>N. P. K. Chan, B. Jayawardhana, and H. Garcia de Marina</i>	109
An Alternative Algorithm to the D-K Iterations for Robust Control Design .....	<i>Y. Chen and M. C. de Oliveira</i>	115
Action Governor for Discrete-Time Linear Systems With Non-Convex Constraints .....	<i>N. Li, K. Han, A. Girard, H. E. Tseng, D. Filev, and I. Kolmanovsky</i>	121
Guaranteed Obstacle Avoidance for Multi-Robot Operations With Limited Actuation: A Control Barrier Function Approach .....	<i>Y. Chen, A. Singletary, and A. D. Ames</i>	127
Sampled-Data Control Based Consensus of Fractional-Order Multi-Agent Systems .....	<i>X. Li, C. Wen, and X.-K. Liu</i>	133
Tight Decomposition Functions for Continuous-Time Mixed-Monotone Systems With Disturbances .....	<i>M. Abate, M. Dutreix, and S. Coogan</i>	139
Subspace Identification of Linear Time-Periodic Systems With Periodic Inputs .....	<i>M. Yin, A. Iannelli, and R. S. Smith</i>	145
Multicellular Feedback Control of a Genetic Toggle-Switch in Microbial Consortia .....	<i>D. Fiore, D. Salzano, E. Cristòbal-Cóppulo, J. M. Olm, and M. di Bernardo</i>	151
Secure State-Reconstruction Over Networks Subject to Attacks .....	<i>Y. Mao, S. Diggavi, C. Fragouli, and P. Tabuada</i>	157
Non-Fragile $\mathcal{H}_\infty$ Order Reduction of LTI Controllers .....	<i>S. Keyumarsi, A. Nobakhti, and M. S. Tavazoei</i>	163
Global Saturated Tracking Control of a Quadcopter With Experimental Validation .....	<i>W. Xie, G. Yu, D. Cabecinhas, R. Cunha, and C. Silvestre</i>	169
$H_\infty$ Tracking Control for Linear Discrete-Time Systems: Model-Free Q-Learning Designs .....	<i>Y. Yang, Y. Wan, J. Zhu, and F. L. Lewis</i>	175
Interplay Between Homophily-Based Appraisal Dynamics and Influence-Based Opinion Dynamics: Modeling and Analysis .....	<i>F. Liu, S. Cui, W. Mei, F. Dörfler, and M. Buss</i>	181
Adaptive Isostable Reduction of Nonlinear PDEs With Time Varying Parameters .....	<i>D. Wilson and S. M. Djouadi</i>	187
Scenario-Based Set Invariance Verification for Black-Box Nonlinear Systems .....	<i>Z. Wang and R. M. Jungers</i>	193
Risk Trading in a Chance-Constrained Stochastic Electricity Market .....	<i>R. Mieth, M. Roveto, and Y. Dvorkin</i>	199
Adaptive Nonlinear Control With Contraction Metrics .....	<i>B. T. Lopez and J.-J. E. Slotine</i>	205
Neural Contraction Metrics for Robust Estimation and Control: A Convex Optimization Approach .....	<i>H. Tsukamoto and S.-J. Chung</i>	211
Secure Fast Covariance Intersection Using Partially Homomorphic and Order Revealing Encryption Schemes .....	<i>M. Ristic, B. Noack, and U. D. Hanebeck</i>	217
Disturbance Decoupling for Gradient-Based Multi-Agent Learning With Quadratic Costs .....	<i>S. H. Q. Li, L. Ratliff, and B. Açı kmeşe</i>	223
Linear Fractional Representations and $\mathcal{L}_2$ -Stability Analysis of Continuous Piecewise Affine Systems .....	<i>G. Bianchini, S. Paoletti, and A. Vicino</i>	229
Computation of Least-Conservative State-Constraint Sets for Decentralized MPC With Dynamic and Constraint Coupling .....	<i>S. K. Mulagaleti, A. Bemporad, and M. Zanon</i>	235
A Smooth Robustness Measure of Signal Temporal Logic for Symbolic Control .....	<i>Y. Gilpin, V. Kurtz, and H. Lin</i>	241
Symbolic Models for a Class of Impulsive Systems .....	<i>A. Swikir, A. Girard, and M. Zamani</i>	247
Synthesis of Partially Observed Jump-Diffusion Systems via Control Barrier Functions .....	<i>N. Jahanshahi, P. Jagtap, and M. Zamani</i>	253
A Distributed Dual Proximal Minimization Algorithm for Constraint-Coupled Optimization Problems .....	<i>A. Falsone and M. Prandini</i>	259
Recursive Feasibility of Continuous-Time Model Predictive Control Without Stabilising Constraints .....	<i>W. Esterhuizen, K. Worthmann, and S. Streif</i>	265

Optimal Finite-Horizon Control for Networked Control Systems in the Presence of Random Delays and Packet Losses .....	<i>M. Palmisano, M. Steinberger, and M. Horn</i>	271
Selection of Modulating Functions' Design Parameters for Estimation Problems .....	<i>S. Asiri, D.-Y. Liu, and T.-M. Laleg-Kirati</i>	277
Distributed Optimization With Event-Triggered Communication via Input Feedforward Passivity .....	<i>M. Li, L. Su, and T. Liu</i>	283
Predictor-Based Control of LTI Remote Systems With Estimated Time-Varying Delays .....	<i>Y. Deng, V. Léchappé, E. Moulay, and F. Plestan</i>	289
Robust Kalman Filtering With Probabilistic Uncertainty in System Parameters .....	<i>S. Kim, V. M. Deshpande, and R. Bhattacharya</i>	295
Robust Optimization Over Networks Using Distributed Restarting of Accelerated Dynamics .....	<i>D. E. Ochoa, J. I. Poveda, C. A. Uribe, and N. Quijano</i>	301
Policy Iteration for Linear Quadratic Games With Stochastic Parameters .....	<i>B. Gravell, K. Ganapathy, and T. Summers</i>	307
A Data-Driven Method Based on Quadratic Programming for Distance-Based Formation Control of Euler-Lagrange Systems .....	<i>V. A. Rodríguez, M. Gamonal Fernández, P. Moreno, and L. Colombo</i>	313
Quantized Stabilization of Continuous-Time Switched Linear Systems .....	<i>G. O. Berger and R. M. Jungers</i>	319
Topology-Independent Robust Stability Conditions for Uncertain MIMO Networks .....	<i>C. A. Devia and G. Giordano</i>	325
Anti-Windup Design for Directionality Compensation With Application to Quadrotor UAVs .....	<i>P. Ghignoni, N. O. Buratti, D. Invernizzi, and M. Lovera</i>	331
Reinforcement Learning Approach to Feedback Stabilization Problem of Probabilistic Boolean Control Networks .....	<i>A. Acernese, A. Yerudkar, L. Glielmo, and C. D. Vecchio</i>	337
Non-Convex Feedback Optimization With Input and Output Constraints .....	<i>V. Häberle, A. Hauswirth, L. Ortmann, S. Bolognani, and F. Dörfler</i>	343
Necessary and Sufficient Conditions for Frequency-Based Kelly Optimal Portfolio .....	<i>C.-H. Hsieh</i>	349
Distributed Formation Control for Multi-Vehicle Systems With Splitting and Merging Capability .....	<i>S. A. Novoth, Q. Zhang, K. Ji, and D. Yu</i>	355
Performance Analysis and Optimization of Power Systems With Spatially Correlated Noise .....	<i>T. Jouini and Z. Sun</i>	361
Kernel Regularization in Frequency Domain: Encoding High-Frequency Decay Property .....	<i>Y. Fujimoto</i>	367

---

# UPCOMING CONFERENCES



## American Control Conference **ACC 2021**

**May 26–28, New Orleans, Louisiana, USA**

**Manuscript Submission Deadline**  
September 14, 2020 (Passed)

**Acceptance/Rejection Notice**  
January 24, 2021

**Final Manuscript Submission Deadline**  
March 15, 2021

<http://acc2021.a2c2.org/>



Conference on  
Control Technology and Applications  
**CCTA 2021**

**August 8–11, San Diego, USA**

**Initial Submissions**  
January 19, 2021

**Decision Notification and Registration Opens**  
April 19, 2021

**Final Submissions**  
May 24, 2021

<https://ccta2021.ieecss.org/>



# Conference on Decision and Control

## CDC 2021

**December 13–15, Austin, USA**

**Initial Paper Submissions to L-CSS with CDC Option Due:**

March 4, 2021

**Invited Session Proposals Due:**

March 9, 2021

**Initial Paper Submissions Due:**

March 18, 2021

**Workshop Proposals Due:**

May 1, 2021

**Decision Notification:**

Mid-July, 2021

**Final Submissions Due:**

September 10, 2021

<https://cdc2021.ieeccc.org/>



# American Control Conference

## ACC 2022

**June 8–10, Atlanta, GA, USA**